

photons on a beam splitter, the method including emitting photons or photon swarms according to a randomness principle using a photon source, the photon source including a low power light source; splitting the photons or photon swarms emitted by the photon source during a measurement period using at least a first beam splitter and a second beam splitter disposed in a beam path of the light source, the second beam splitter being disposed downstream of the first beam splitter in a first downstream path of the first beam splitter; detecting, in accordance with the splitting, the photons or photon swarms from the splitting using a first, a second and a third detector connected to a detection device, the first detector being disposed in a second downstream path of the first beam splitter, the second detector being disposed in a third downstream path of the second beam splitter, the third detector being disposed in a fourth downstream path of the second beam splitter; generating a random number when the photons or photon swarms detected at the first, second and third detectors together correspond to a predefined photon scheme, the photon scheme including generating a random number when only one of the second and third detectors registers a detection of the photons or photon swarms.

The present invention also provides an apparatus for generating a binary sequence of random numbers, the apparatus including a low power light source including a photon source for emitting individual photons and/or photon swarms according to a randomness principle; a first and a second beam splitter disposed downstream from the light source in a beam path of the light source, the first beam splitter being disposed between the light source and the second beam splitter; a first detector disposed in a downstream path of the first beam splitter; a second detector and a third detector disposed in a first and a second downstream path, respectively, of the second beam splitter; a detection device for generating the random numbers, the detection device being disposed downstream from the first, second and third detectors, the detection device including at least one counter and computer.--.

On page 3, line 22, change "is based on" to --uses--.

On page 4, line 17, change "The mathematical principles and the possible embodiments" to --Embodiments--.

On page 4, before line 17, insert--Brief Description of the Drawings--.

On page 4, delete line 17.